

Date: Monday, 11/19/2007 4:02:50 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : FWD TUBE ASSEMBLY
Job Number : 35835	
Estimate Number : 10467	
P.O. Number : <i>NIA</i>	Part Number : D3391021
This Issue : 11/19/2007 S.O. No. : <i>NIA</i>	Drawing Number : D3391 REV G
Prsht Rev. : <i>NIA</i>	Project Number : N/A
First Issue : <i>NIA</i> Type : MACHINED PARTS	Drawing Revision : G
Previous Run : 35834	Material : <i>NIA</i>
Written By : <i>[Signature]</i>	Due Date : 12/10/2007 Qty: 1 Um: Each
Checked & Approved By : <i>[Signature]</i>	
Comment : Est. A 05.09.13 New issue KJ/JLM	
Est. B 06.02.10 Dwg rev.D ecn 773 EC	
Est. C 06.05.02 Added inspections EC	
est D 07.03.13 rev F dwg EC	
est E 07.11.07 revG dwg ecn1053P EC verified by: DD	
Est Rev:f ECN 1056 07-11-12 DD verified by: EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6013047	SKIDTUBE MAT'L
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
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1	D6013-047	Extrusion	<i>B26547 DP 7-11-20</i>
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2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1
 Cut extrusion to 46.52 +0.010 -0.020

DP 7-11-20

3.0	BENDING	BENDING MACHINE
-----	---------	-----------------



Comment: No bender
 Bend as per Dwg D3391 Using Bend Prog 3391021

EL 7-11-26

4.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

SA 07/11/26 (E)

5.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1
 1-Machine as per Folio FA590 Rev. *F* & Dwg D3391 Rev. *G*
 Identify as D3391-1

SA 07.12.03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/19/2007 4:02:50 PM
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Drawing Name: FWD TUBE ASSEMBLY

Job Number: 35835

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Deburr

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SA 07.12.03

7.0

MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE
Drill X1 Aft cap as per Dwg D3391

07.12.04 (1)

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

07.12.04 (1)

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

07.12.04 (1)

10.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Deburr & Scribe Batch number Inside aft end.

DP
7-12-5

DP
7-12-12

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7/12/13 (1)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 35835

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

SR 7-12-14

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

5 2/12/17

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

batch:

B35813

DP 7-12-18

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

instal spacers as per dwg D3391

A/R Magnabond 6398 batch:

M105379

DP 7-12-18

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 9/12/18

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M105914

FL 07/12/19

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BR 07-12-19

19.0

ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

INSERT

batch:

M105729

or equivalent

per QSI 017

BR

BR 07-12-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/19/2007 4:02:50 PM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 35835

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

INSERT

batch: M100489

or equivalent

per QSI 017

BR.

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Inserts as per Dwg

BR

07-12-19

①

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-12-19

23.0

D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Tow Cap Assembly

Pick:

Qty Part Number Description Batch

1 D3401-041 Tow Cap

B33658

BR

24.0

D356413

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE B33456

BR

25.0

D356613

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET B 32744

BR

26.0

D36721

PHENOLIC WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

PHENOLIC WASHER B 34470

BR

BR. 07-12-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: AD Date: 08/01/16
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 35835

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Bolt

Pick:

Qty

Part Number

Description

Batch

4

AN3C4A

Bolt

M 106431

BR

28.0

AN960C10L

washer

*



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

washer

M 106575

BR

29.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Install tow Cap as per Dwg D3391

Identify as D3391-021

BR

08-01-04

①

30.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect thread of each insert using DT8821

08/01/04

①

31.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

AP

35744

SD

8/1/15

①

32.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/01/16

①

Job Completion



W 08-01-16

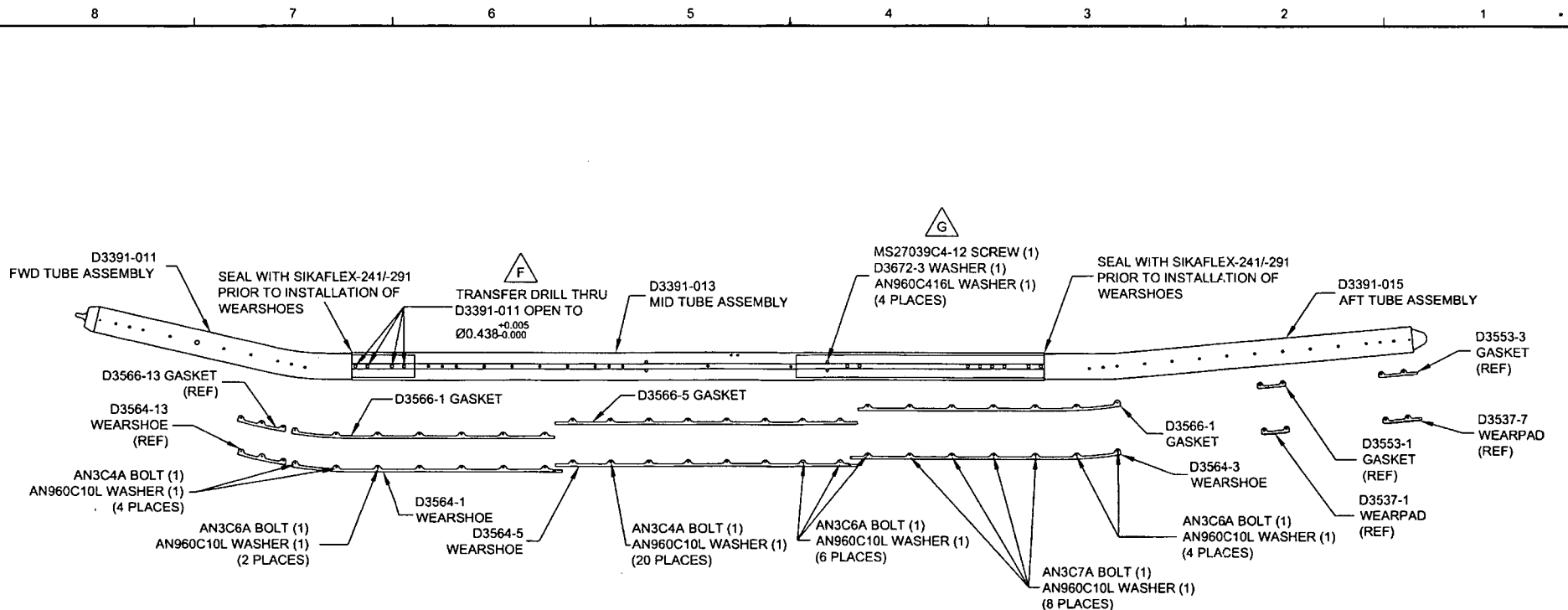
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041 ASSEMBLY

RELEASED
07-11-07

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
UNITS: INCHES UNLESS OTHERWISE NOTED
- 3) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	07.07.31		

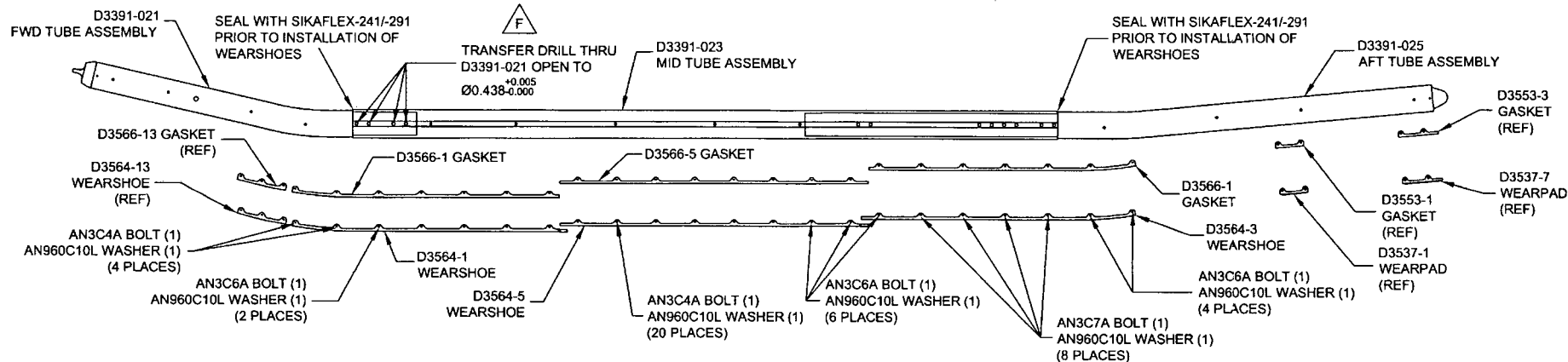
DART AEROSPACE USA, INC
PORT HADLOCK, WA

DRAWING NO. REV. G
D3391 SHEET 1 OF 8

TITLE SCALE
412 FLOAT SKIDTUBE NTS

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D3391-043 ASSEMBLY

RELEASED
07.11.94

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

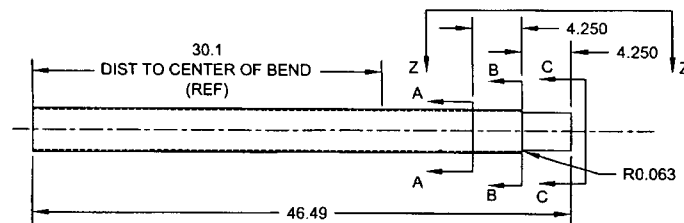
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X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

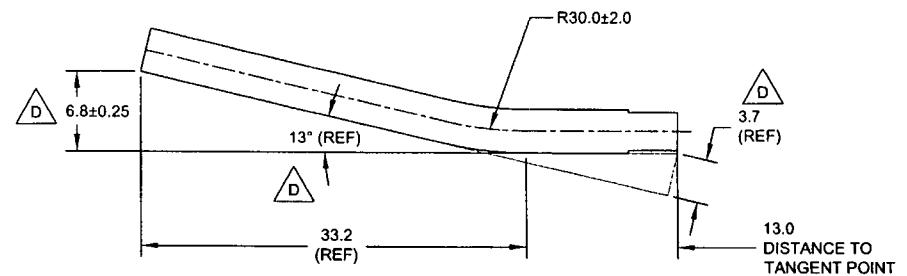
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	JLC	PORT HADLOCK, WA
CHECKED	JP	DRAWING NO. D3391
MFG. APPR.	JP	REV. G SHEET 2 OF 8
APPROVED	JP	TITLE 412 FLOAT SKIDTUBE
DE APPR.	JP	SCALE NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

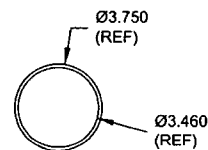
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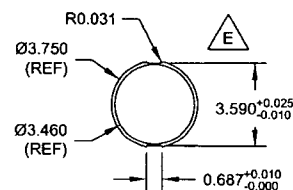
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(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



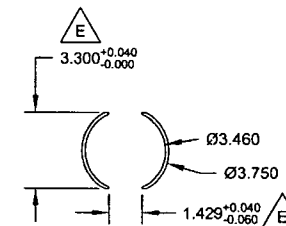
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



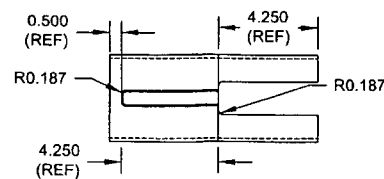
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SECTION B-B
(SCALE 1:5)



SECTION C-C
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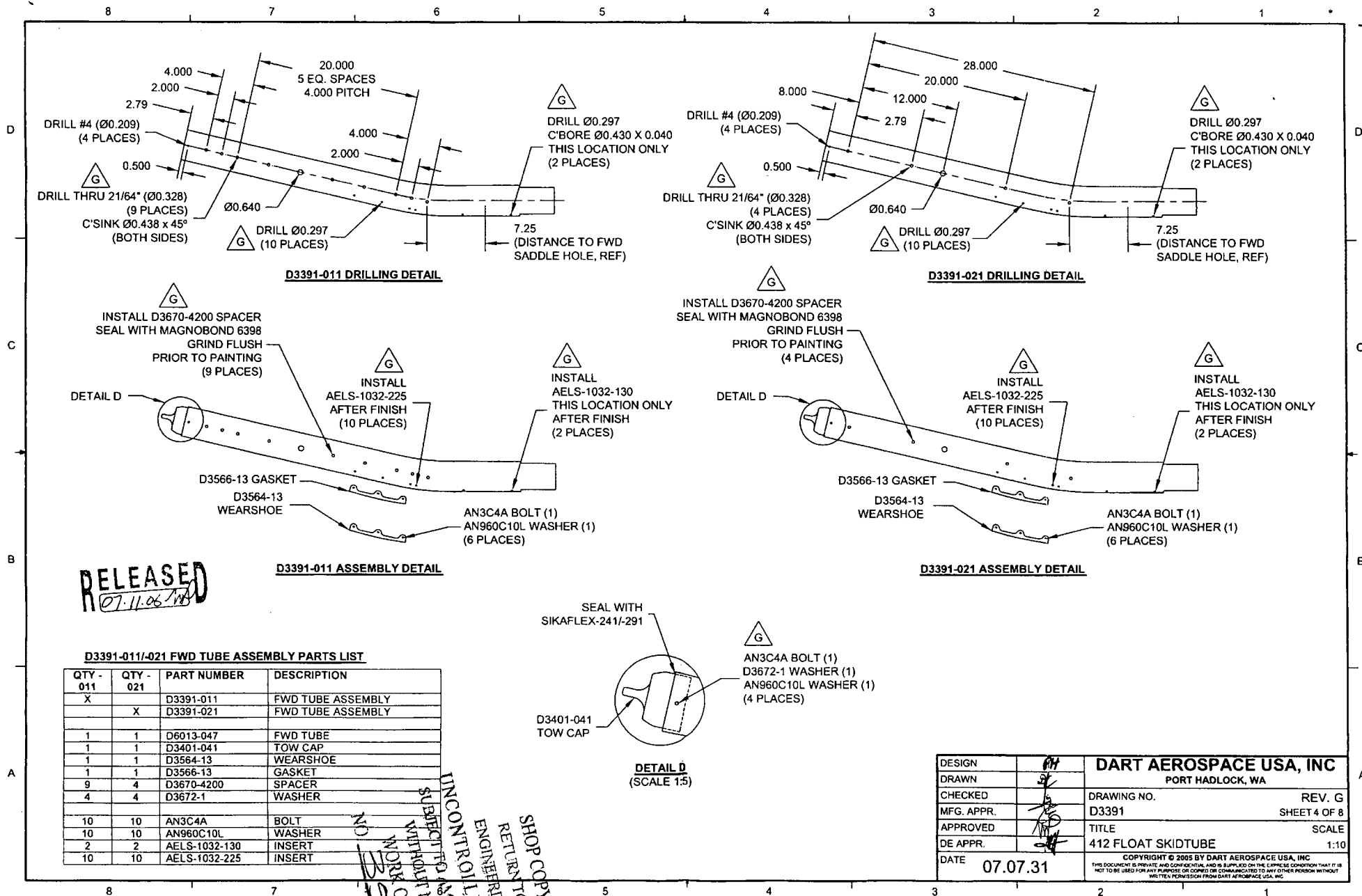


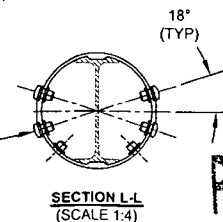
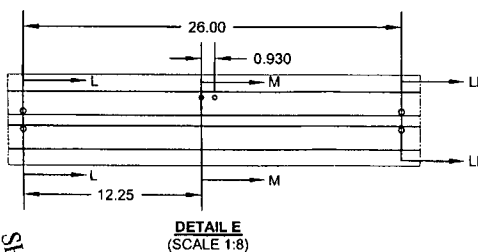
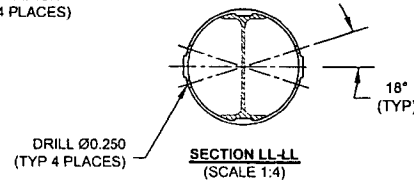
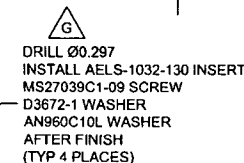
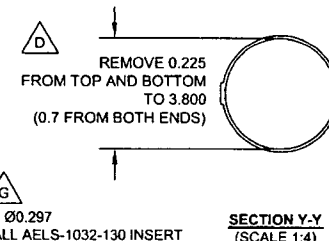
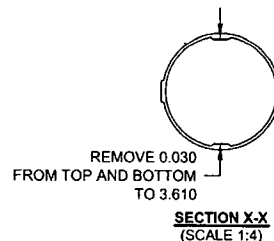
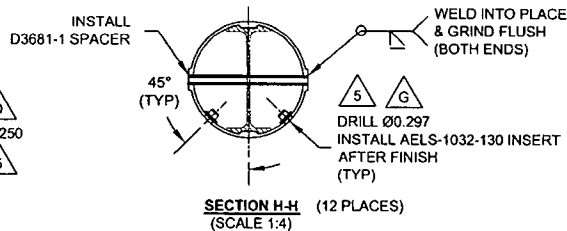
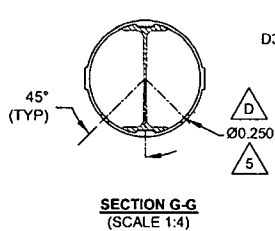
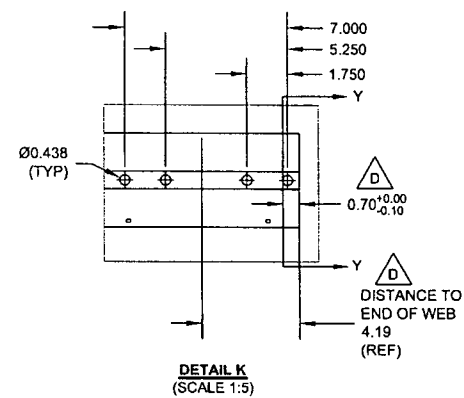
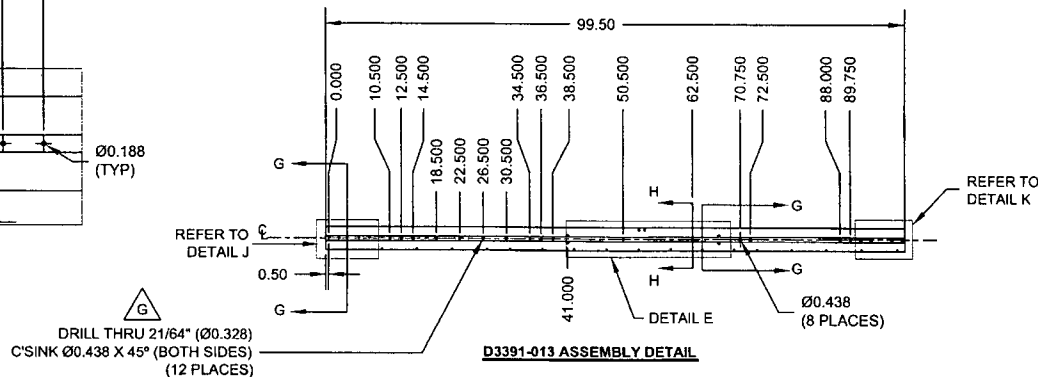
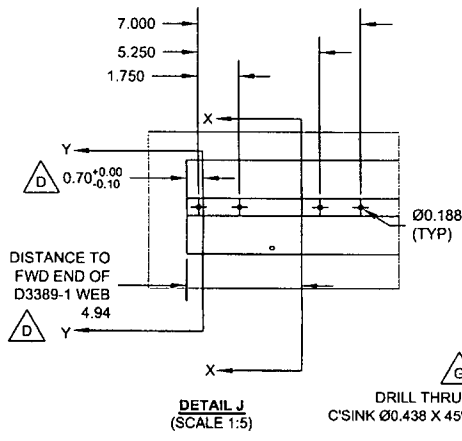
VIEW Z-Z
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07-11-28

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CHECKED	<i>JSC</i>	DRAWING NO.	REV. G
MFG. APPR.	<i>JSC</i>	D3391	SHEET 3 OF 8
APPROVED	<i>JSC</i>	TITLE	SCALE
DE APPR.	<i>JSC</i>	412 FLOAT SKIDTUBE	1:10
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D3391-013 MID TUBE ASSEMBLY PARTS LIST

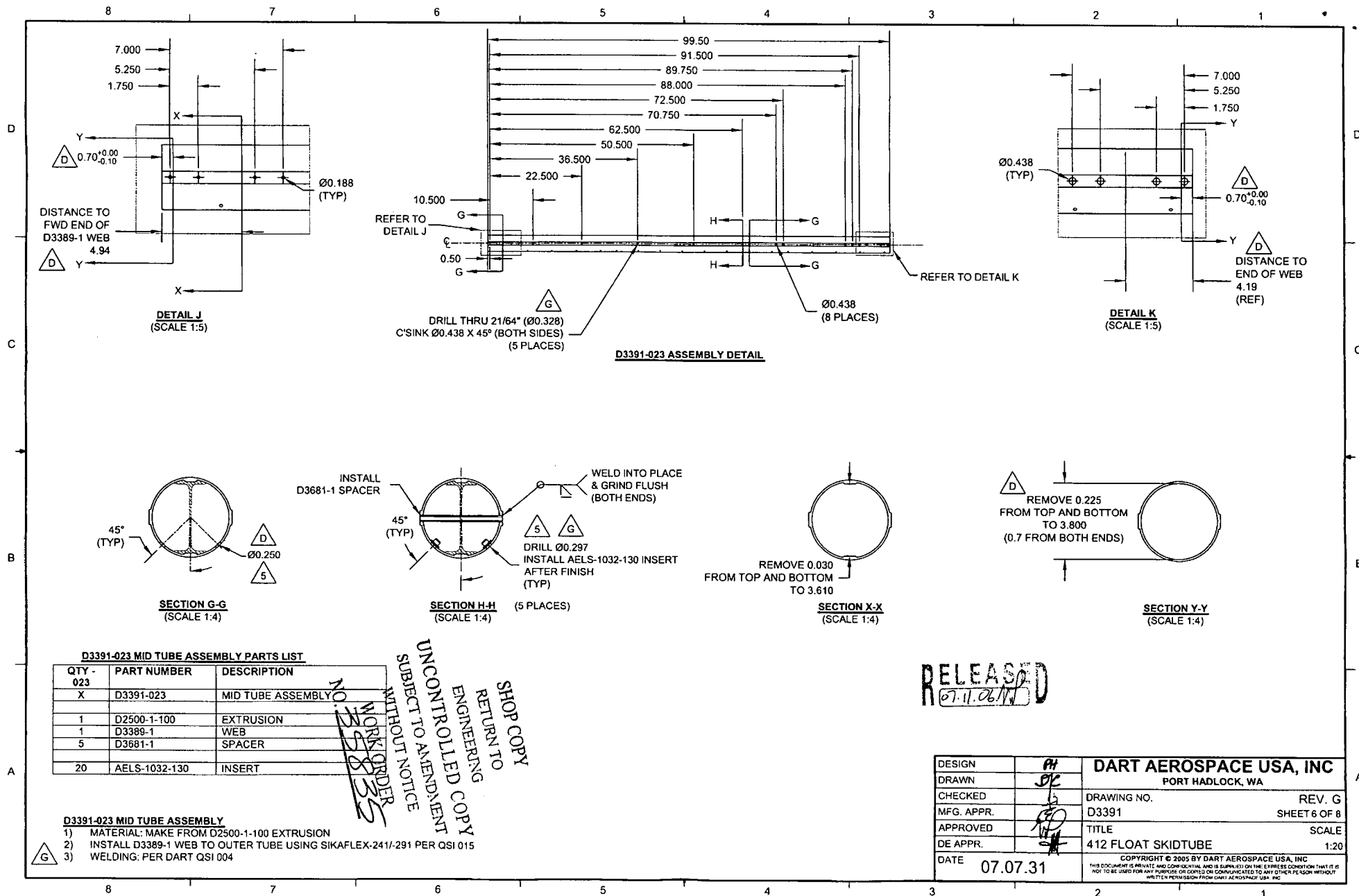
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X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
12	D3681-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

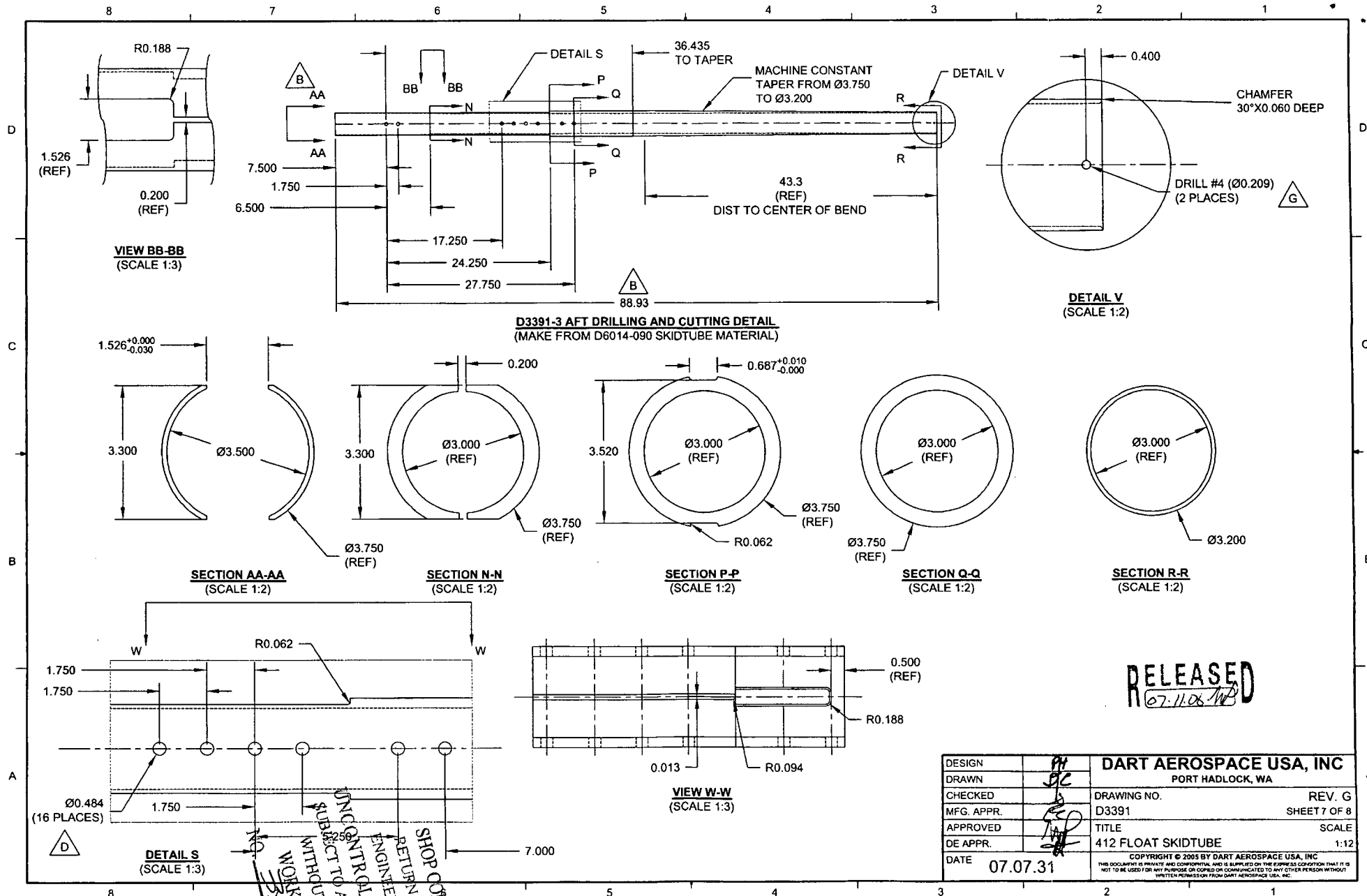
- D3391-013 MID TUBE ASSEMBLY**
- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
 - INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/251 PER QSI 015
 - WELDING: PER DART QSI 004

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07.11.06

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DRAWN	DP	PORT HADLOCK, WA	
CHECKED	DP	DRAWING NO.	REV. G
MFG. APPR.	DP	D3391	SHEET 5 OF 8
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	412 FLOAT SKIDTUBE	1:20
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	





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